

```

graph TD
    subgraph 102_MM [102 MMI]
        subgraph 104_UI [104 USER INTERFACE DEFINITION FILES]
            subgraph 107_BROWSER [107 BROWSER]
                subgraph 106_SHELL [106 SHELL]
                    subgraph 108_URL [108 URL HISTORY STACK]
                    end
                end
                110_CALL[110 CALL BACK QUEUE]
                subgraph 112_PROTOCOL [112 PROTOCOL HANDLERS]
                end
                subgraph 114_CONTENT [114 CONTENT HANDLERS]
                end
                116_PORTABLE[116 PORTABLE COMPONENTS]
            end
        end
        118_PORTABILITY[118 PORTABILITY LAYER]
        120_TELEPHONE[120 TELEPHONE CONTROL MODULE]
    end
    102_MM --- 104_UI
    104_UI --- 107_BROWSER
    107_BROWSER --- 106_SHELL
    106_SHELL --- 108_URL
    108_URL --- 110_CALL
    110_CALL --- 112_PROTOCOL
    112_PROTOCOL --- 114_CONTENT
    114_CONTENT --- 116_PORTABLE
    116_PORTABLE --- 118_PORTABILITY
    118_PORTABILITY --- 120_TELEPHONE
    120_TELEPHONE --- 122_RTOS[122 REAL TIME OPERATING SYSTEM]
    122_RTOS --- 100_WCD[100 WIRELESS COMMUNICATION DEVICE]
    subgraph 100_WCD [100 WIRELESS COMMUNICATION DEVICE]
        124_PROCESSOR[124 PROCESSOR]
        126_MEMORY[126 MEMORY]
        subgraph 128_INPUT [128]
            130_SOFTKEYS[130 SOFTKEYS]
            132_FUNCTION[132 FUNCTION]
            134_NUMBER[134 NUMBER KEYS]
        end
        136_SCREEN[136 SCREEN DISPLAY]
    end

```

The diagram illustrates the architecture of a mobile communication device, organized into several layers and functional blocks:

- 102 MMI (Man-Machine Interface)**: The topmost layer, containing:
 - 104 USER INTERFACE DEFINITION FILES**: A block within the MMI layer.
- 107 BROWSER**: A layer below the UI files, containing:
 - 106 SHELL**: A block within the browser layer.
 - 108 URL HISTORY STACK**: A block within the shell.
 - 110 CALL BACK QUEUE**: A block within the browser layer.
 - 112 PROTOCOL HANDLERS**: A block within the browser layer.
 - 114 CONTENT HANDLERS**: A block within the browser layer.
 - 116 PORTABLE COMPONENTS**: A block within the browser layer.
- 118 PORTABILITY LAYER**: A layer below the browser, containing:
 - 120 TELEPHONE CONTROL MODULE**: A block within the portability layer.
- 122 REAL TIME OPERATING SYSTEM**: A layer below the portability layer.
- 100 WIRELESS COMMUNICATION DEVICE**: The bottom layer, containing:
 - 124 PROCESSOR**: A block within the wireless communication device.
 - 126 MEMORY**: A block within the wireless communication device.
 - 128**: A block within the wireless communication device, containing:
 - 130 SOFTKEYS**: A block within the 128 block.
 - 132 FUNCTION**: A block within the 128 block.
 - 134 NUMBER KEYS**: A block within the 128 block.
 - 136 SCREEN DISPLAY**: A block within the wireless communication device.

16331/01000/132

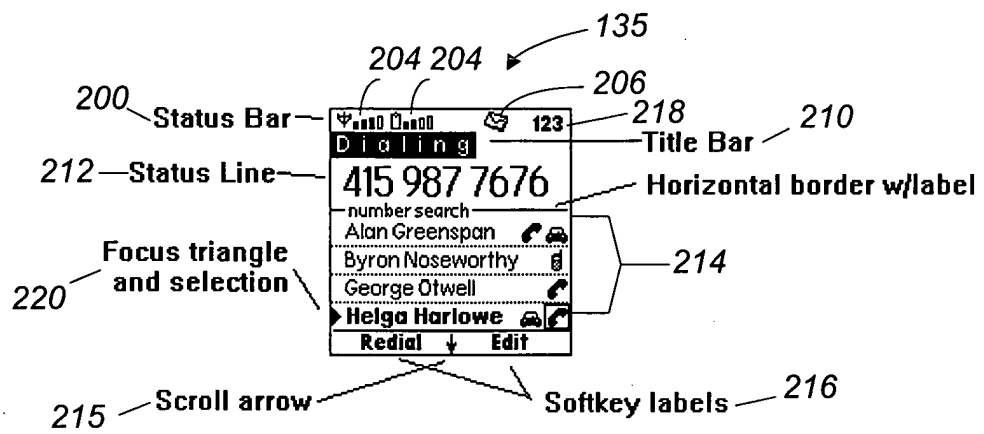


FIG. 2

107

868070" 46E25060

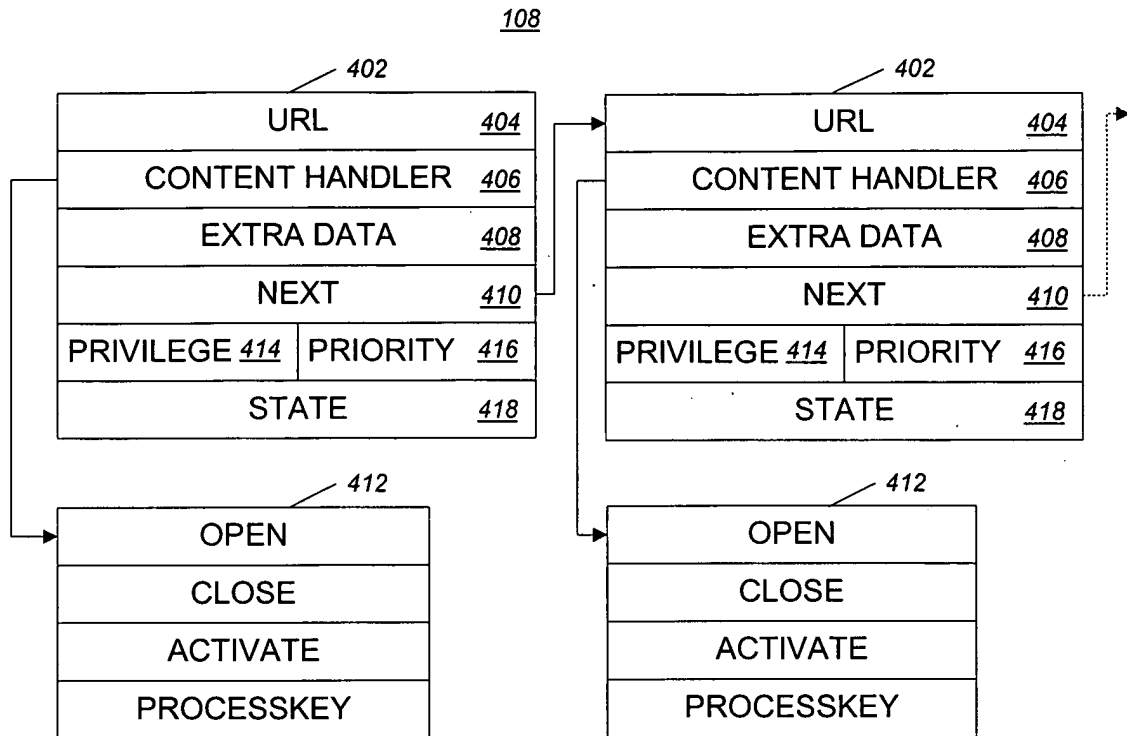


FIG. 4

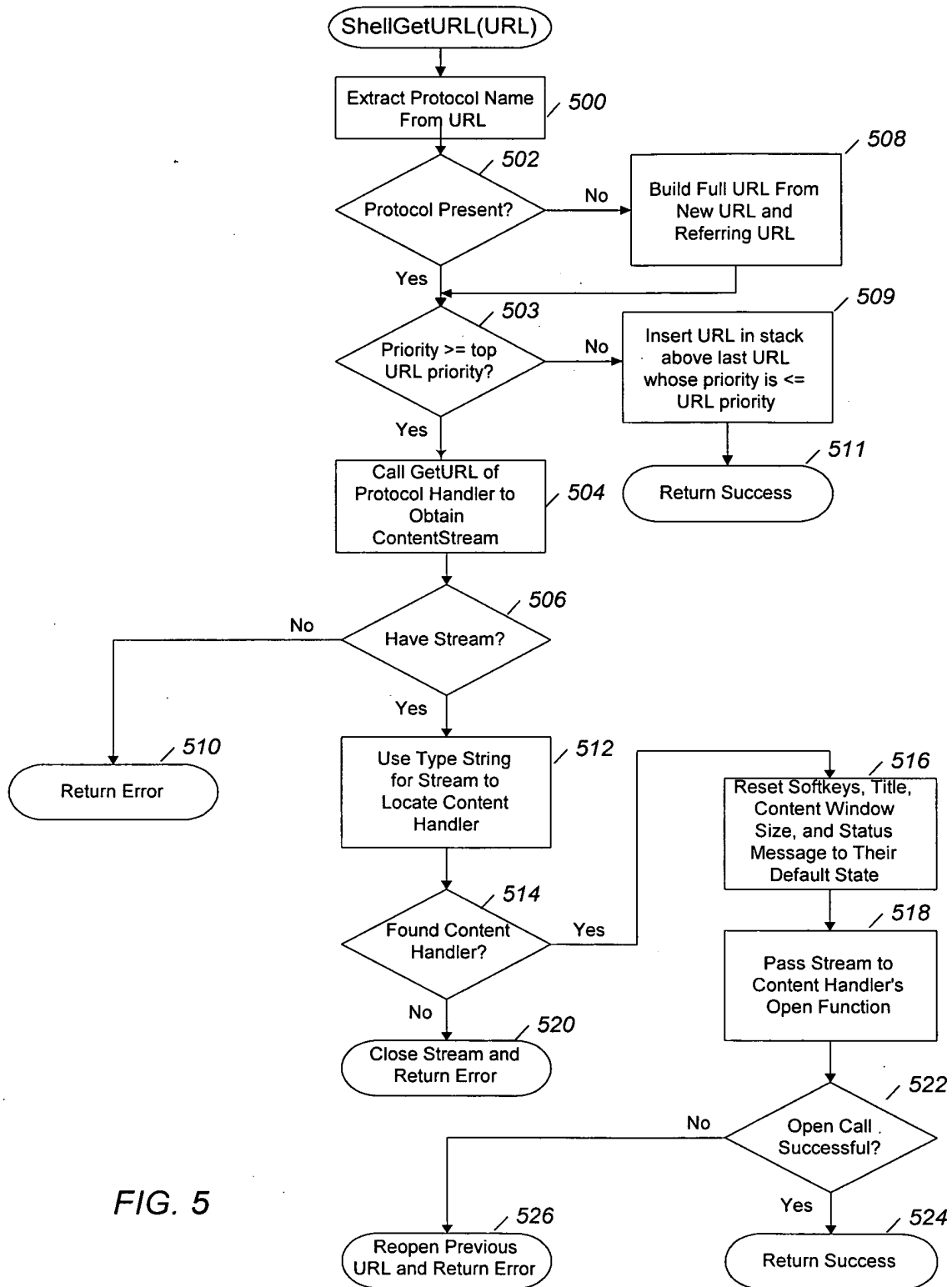


FIG. 5

00000000000000000000000000000000

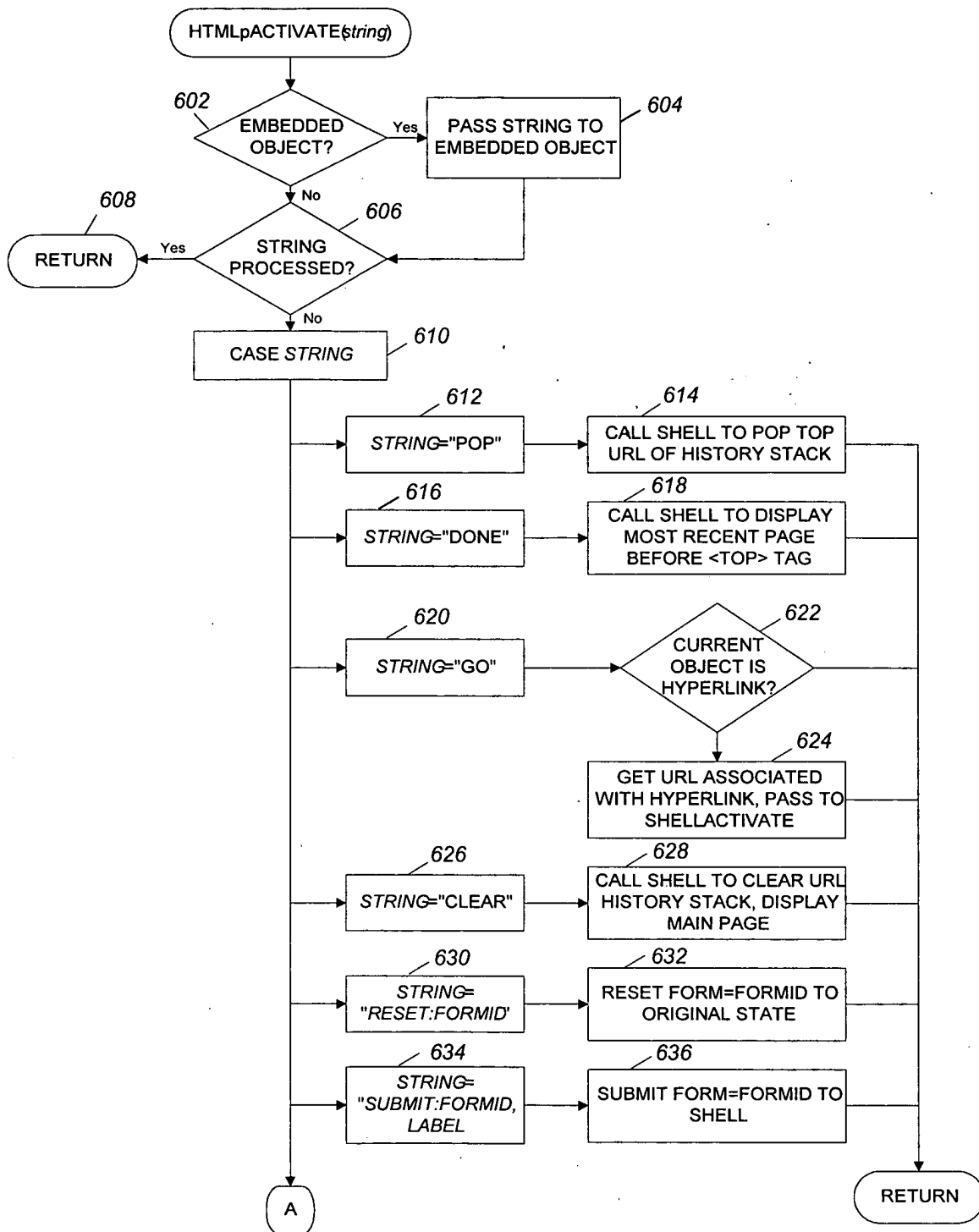


FIG. 6A

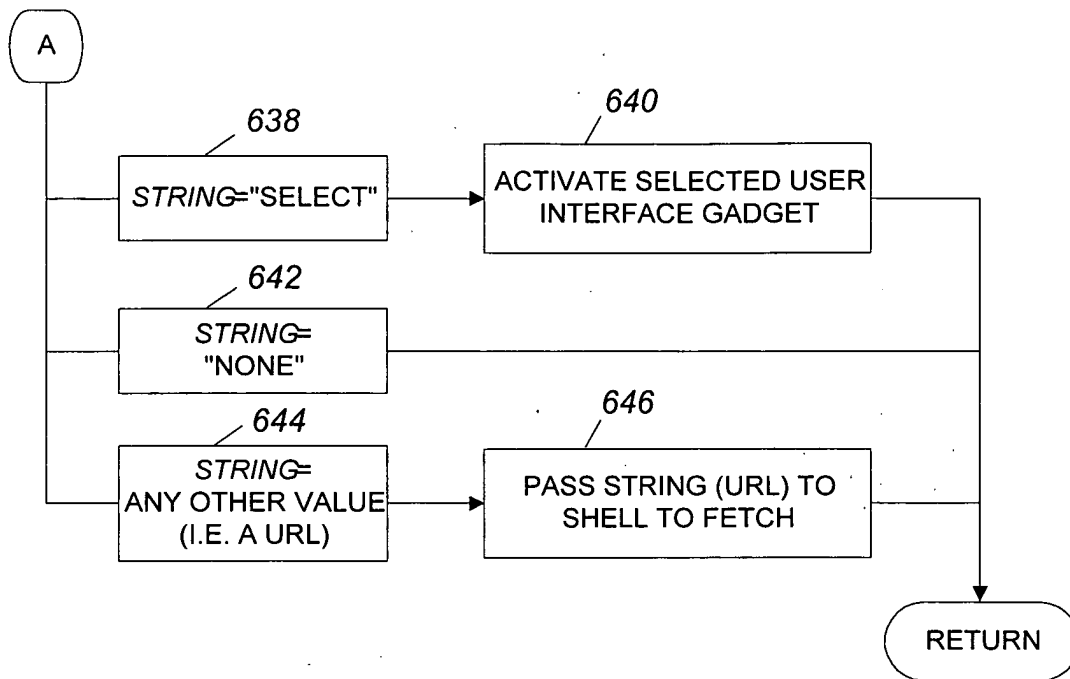


FIG. 6B


| HTMLp | Result |
|--|---|
| <pre> <HTML> <HEAD> <KEY KEY=2 LABEL="PhoneBook" ACTION="file://phonbook.html"> <KEY KEY=1 LABEL="Menu" ACTION=MENU> <KEYMENU KEY=1 LABEL="Messages" ACTION=file://msgs.html> <KEYMENU KEY=1 LABEL="Recent Calls" ACTION=file://recent.html> <KEYMENU KEY=1 LABEL="Phone Settings" ACTION="file://phonsett.html"> <KEY KEY=up action="file://recent.html"> <KEY KEY=down action="file://phonbook.html"> </HEAD> <BODY> <CENTER> c e l l u l a r s e r v i c e s </CENTER> </BODY> </HTML> </pre> |  |

FIG. 7


| HTMLp | Result |
|---|--|
| <pre> <HTML> <HEAD> <TOP> <TITLE>Phone Book</TITLE> <KEY KEY=1 Label=New Action="new"> <KEY KEY=clear action=delete> <HELP>Press any number key to search for an entry</HELP> <HELP>Press Send to call someone</HELP> </HEAD> <BODY> <OBJECT CODE="phone:list?editkey=2&showstatus"> </BODY> </HTML> </pre> |  |

FIG. 8

1868070-16E45060

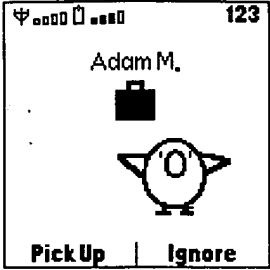
| HTMLp | Result |
|---|---|
| <pre><HTML> <HEAD> <KEY KEY=2 LABEL=Ignore ACTION=phone:ignore> <IF TEST=extra:conf> <KEY KEY=1 LABEL=Conference ACTION=phone:conference> <ELSE> <KEY KEY=1 LABEL="Pick Up" ACTION=phone:answer> </IF> <KEY KEY=send ACTION=phone:answer> <IF TEST=config:anykey> <KEY KEY=default ACTION=phone:answer> <KEY KEY=back ACTION=phone:answer> </IF> <KEY KEY=end ACTION=phone:ignore> <KEY KEY=up ACTION=phone:upvolume> <KEY KEY=down ACTION=phone:downvolume> </HEAD> <BODY > <TEMPLATE> <CENTER> %(extra:name) </CENTER> </TEMPLATE> </BODY> </HTML></pre> |  |

FIG. 9

868040-46E/5060

| HTMLp | Result |
|--|--------|
| <pre><HTML> <HEAD> <TOP> <TITLE>Phone Book</TITLE> <KEY KEY=1 LABEL="Modify" ACTION=MENU> <KEYMENU KEY=1 LABEL="Add Another #" ACTION="phone:edit?Name=@n"> <KEYMENU KEY=1 LABEL="Assign Speed Dial" ACTION="file:///pbspeed.html?id=@i&offset=@o&Name=@n&icon=@I"> <KEYMENU KEY=1 LABEL="Set Ring Tone" ACTION="file:///pbring.html?id=@i&Name=@n"> <KEYMENU KEY=1 LABEL="Change Number" ACTION="file:///pbnum.html?id=@i&offset=@o&Name=@n&Phone=@N"> <KEY KEY=2 Label=New Action="new"> <KEY KEY=clear action=delete> <HELP>Press any number key to search for an entry</HELP> <HELP>Press Send to call someone</HELP> </HEAD> <BODY> <OBJECT CODE="phone:list?showstatus"> </BODY> </HTML></pre> | |

FIG. 10

| HTMLp | Result |
|---|--------|
| <pre><HTML> <HEAD> <TOP> <KEY KEY=1 Label=New Action="new"> <KEY KEY=clear action=delete> </HEAD> <BODY background="file:///logo.gif"> P h o n e&nbsp;B o o k &nbsp;<OBJECT CODE="phone:list?editkey=2&showstatus&editurl=file:///pbedit.html?id =@i%26offset=@o%26Name=@n%26speed=@S%26icon=@I%26Phone=@N%26ring=@r %26prio=@R" width=101> </BODY> </HTML></pre> | |

FIG. 11

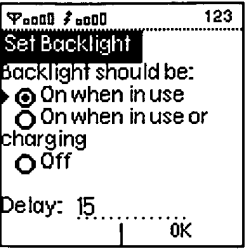
| HTMLp | Result |
|---|---|
| <pre><HTML> <HEAD> <TITLE>Set Backlight</TITLE> </HEAD> <BODY> <TEMPLATE> <FORM METHOD=POST ACTION="config:set"> Backlight should be: <input type=radio name="backlight" CHECKED="config:backlight=0" value=0>On when in use <input type=radio name="backlight" CHECKED="config:backlight=1" value=1>On when in use or charging <input type=radio name="backlight" CHECKED="config:backlight=2" value=2>Off Delay: <input type=text name="backlight delay" value="%(config:backlight delay)"> <input type=submit name=ok value=OK> </FORM> </TEMPLATE> </BODY> </HTML></pre> |  |

FIG. 12

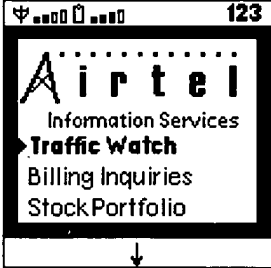
| HTMLp | Result |
|--|---|
| <pre> file info.html <HTML> <INC SRC=bbody.html> <center>Information Services </center> <FORM ACTION=phone:indir> <SELECT SIZE=3 NAME=url SIMPLE> <OPTION VALUE=http://svcs/traffic.html>Traffic Watch</OPTION> <OPTION VALUE=http://svcs/billing.html>Billing Inquiries</OPTION> <OPTION VALUE=http://svcs/portfolio.html>Stock Portfolio</OPTION> <OPTION VALUE=http://svcs/weather.html>Local Weather</OPTION> </SELECT> <INPUT TYPE=submit KEY=send> </FORM> <INC SRC=endbbody.html> </HTML> </pre> |  |
| <pre> file bbody.html: <!-- Specifies a body surrounded by a border with the operator logo at the top. The including file can add a subcaption immediately below, but left and right margin are set so text will not impinge on the border --> <BODY BACKGROUND=sq-back.gif BGPARTIES=fixed> <BLOCKQUOTE> <INC SRC= stdlogo.html> </pre> | |
| <pre> file endbbody.html: <!-- Closes the tags that were opened by bbody.html> </BLOCKQUOTE> </BODY> </pre> | |
| <pre> file stdlogo.html: <!-- Provides the operator logo with the text flow set to receive a subcaption for the logo --> </pre> | |

FIG. 13

20250707 16:25:00

| HTMLp | Result |
|--|---|
| <pre><HTML> <HEAD><TITLE>Dialing</TITLE> <TEMP> <KEY KEY=1 Label="Recent" Action="file://recent.html"> </HEAD> <BODY> <FORM ACTION="phone:dial"> <INPUT NAME=num TYPE=phonenum> <INPUT TYPE=submit KEY=send> </FORM> </BODY> </HTML></pre> | <div><div><div>123</div><div>Dialing</div><div>2</div><div>speed dial</div><div>Garth</div><div>Recent</div></div></div> <div><div><div>123</div><div>Dialing</div><div>995</div><div>number search</div><div>Barbra</div><div>Recent</div></div></div> <div><div><div>123</div><div>Dialing</div><div>7069952143</div><div>number search</div><div>Barbra</div><div>Recent</div></div></div> |

FIG. 14

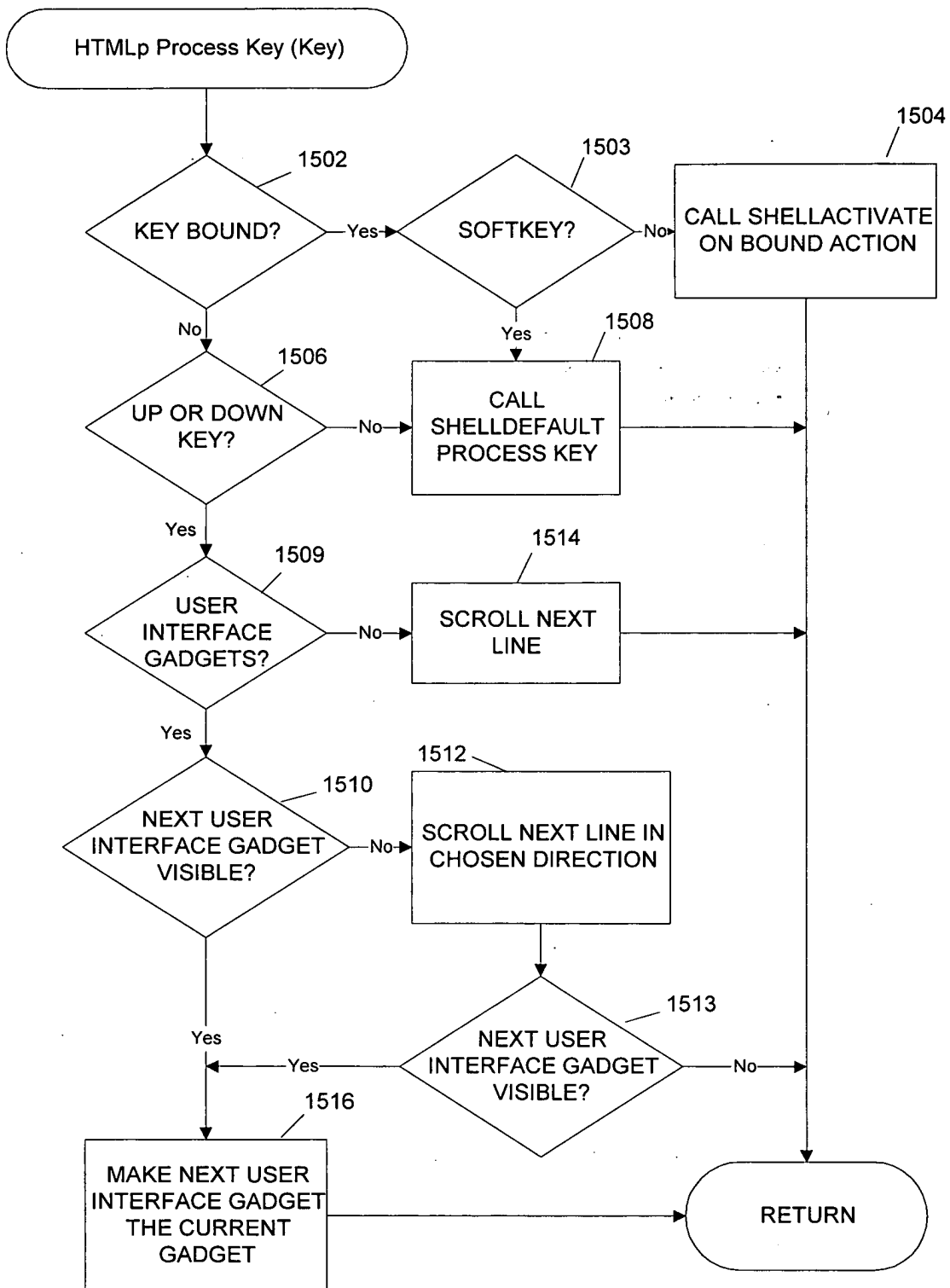


FIG. 15

868040" 46E25060

| HTML | Result |
|--|---|
| <pre><HTML> <BODY> <FORM METHOD=POST ACTION="http://cgi- bin/purchase"> Name: <INPUT TYPE=TEXT NAME=name> Address: <INPUT TYPE=TEXT NAME=street> City: <INPUT TYPE=TEXT NAME=city> State: <INPUT TYPE=TEXT NAME=state MAXLENGTH=2 SIZE=2> Zip: <INPUT TYPE=TEXT NAME=zip SIZE=5> Credit Card: <INPUT TYPE=RADIO NAME=cardtype VALUE=visa>VISA <INPUT TYPE=RADIO NAME=cardtype VALUE=mc>MasterCard <INPUT TYPE=RADIO NAME=cardtype VALUE=amex>American Express Number: <INPUT TYPE=TEXT NAME=cnumber> <INPUT TYPE=submit name=buy value=Buy></FORM> </BODY> </HTML></pre> | <p>Name: <input type="text"/></p> <p>Address: <input type="text"/></p> <p>City: <input type="text"/> State: <input type="text"/> Zip: <input type="text"/></p> <p>Credit Card: <input type="radio"/> VISA <input type="radio"/> MasterCard <input type="radio"/> American Express</p> <p>Number: <input type="text"/></p> <p><input type="button" value="Buy"/></p> |

FIG. 16
PRIOR ART

959040-46E25060

| CLIENT | SERVER |
|---|---|
| <pre><HTML> <HEAD> <TITLE>Purchase Skis</TITLE> <TOP> </HEAD> <BODY> Please enter your name: <FORM METHOD=GET ACTION="http://skishop/cgi-bin/addr "> <INPUT TYPE=TEXT NAME=name SIZE=25> <INPUT KEY=send TYPE=submit> </FORM> </BODY> </HTML></pre> <pre>GET http://skishop/cgi-bin/addr?name=George+Will.</pre> | |
| | Insert "name" into the HTML template maintained on the server, upload to client. |
| <pre><HTML> <HEAD> <TITLE>Purchase Skis</TITLE> </HEAD> <BODY> Now we need your address: <FORM METHOD=GET ACTION="http://skishop/cgi-bin/credit"> <INPUT TYPE=hidden NAME=name VALUE="George Will"> Street: <INPUT TYPE=TEXT NAME=street size=9> City: <INPUT TYPE=TEXT NAME=city size=10> State: <INPUT TYPE=TEXT NAME=state MAXLENGTH=2 SIZE=2> Zip: <INPUT TYPE=TEXT NAME=zip SIZE=5> <INPUT KEY=send TYPE=submit> </FORM> </BODY> </HTML></pre> <pre>GET http://skishop/cgi-bin/credit?name=George+Will&street=2+Anywhere&city=Madison&state=WI&zip=53705</pre> | |
| | Insert address parameters into the template maintained on the server, and upload to client. |

FIG. 17a
PRIOR ART

368040" 45E 25060

| CLIENT | SERVER |
|--|---|
| <pre><HTML> <HEAD> <TITLE>Purchase Skis</TITLE> </HEAD> <BODY> Finally, your credit card info: <FORM METHOD=GET ACTION="http://skishop/cgi-bin/confirm"> <INPUT TYPE=hidden NAME=name VALUE="George Will"> <INPUT TYPE=hidden NAME=street VALUE="2 Anywhere"> <INPUT TYPE=hidden NAME=city VALUE="Madison"> <INPUT TYPE=hidden NAME=state VALUE="WI"> <INPUT TYPE=hidden NAME=zip VALUE="53705"> Credit Card: <INPUT TYPE=RADIO NAME=cardtype VALUE=visa>VISA <INPUT TYPE=RADIO NAME=cardtype VALUE=mc>MasterCard <INPUT TYPE=RADIO NAME=cardtype VALUE=amex>American Express Number: <INPUT TYPE=TEXT NAME=cnumber > <INPUT KEY=send TYPE=submit name=buy value="Review"> </FORM> </BODY> </HTML></pre> <pre>GET http://skishop/cgi- bin/credit?name=George+Will&street=2+Anywhere&cit y=Madison&state=WI&zip=53705&cardtype=visa&cnumbe r=7732222156661000</pre> | |
| | Insert credit card parameters into template maintained on the server, and upload to client. |
| <pre><HTML> <HEAD> <TITLE>Confirm Order</TITLE> </HEAD> <BODY> <DL> <DT>Name:</DT><DD>George Will</DD> <DT>Address:</DT><DD>2 Anywhere, Madison, WI, 53705</DD> <DT>Credit Card:</DT><DD>VISA 7732222156661000</DD> </DL> <FORM METHOD=POST ACTION="http://skishop/cgi-bin/purchase"> <INPUT TYPE=hidden NAME=name VALUE="George Will"> <INPUT TYPE=hidden NAME=street VALUE="2 Anywhere"> <INPUT TYPE=hidden NAME=city VALUE="Madison"> <INPUT TYPE=hidden NAME=state VALUE="WI"> <INPUT TYPE=hidden NAME=zip VALUE="53705"> <INPUT TYPE=hidden NAME=cardtype VALUE="visa"> <INPUT TYPE=hidden NAME=cnumber VALUE="7732222156661000"> <INPUT KEY=1 TYPE=submit name=buy value="Buy!"> </FORM> </BODY> </HTML></pre> <pre>POST http://skishop/cgi- bin/purchase?name=George+Will&street=2+Anywhere&c ity=Madison&state=WI&zip=53705&cardtype=visa&cnum ber=7732222156661000</pre> | |
| | Process transaction with all parameters. |

FIG. 17b
PRIOR ART

090637Z FEB 80


| HTMLp | Result |
|--|---|
| <pre>file: purchaseform.html <HTML> <HEAD> <TITLE>Purchase Skis</TITLE> <TOP> <KEY KEY=2 LABEL="Never Mind" ACTION=done> </HEAD> <BODY> Please enter your name: <FORM METHOD=NEXT ACTION="file://addr.html"> <INPUT TYPE=TEXT NAME=name cap=name abcmodes=alpha,num SIZE=25> <INPUT KEY=send TYPE=submit > </FORM> </BODY> </HTML></pre> |  |
| <pre>file: addr.html <HTML> <HEAD> <TITLE>Purchase Skis</TITLE> <KEY KEY=2 LABEL="Never Mind" ACTION=done> </HEAD> <BODY> Now we need your address: <FORM METHOD=NEXT ACTION="file://credit.html"> Street: <INPUT TYPE=TEXT NAME=street cap=name abcmodes=num,alpha size=9> City: <INPUT TYPE=TEXT NAME=city cap=name abcmodes=alpha size=10> State: <INPUT TYPE=TEXT NAME=state cap=name abcmodes=alpha MAXLENGTH=2 SIZE=2> Zip: <INPUT TYPE=TEXT NAME=zip abcmodes=num SIZE=5> <INPUT KEY=send TYPE=submit > </FORM> </BODY> </HTML></pre> |  |
| <pre>file: credit.html <HTML> <HEAD> <TITLE>Purchase Skis</TITLE> <KEY KEY=2 LABEL="Never Mind" ACTION=done> </HEAD> <BODY> Finally, your credit card info: <FORM METHOD=NEXT ACTION="file://confirm.html"> Credit Card: <INPUT TYPE=RADIO NAME=cardtype VALUE=visa>VISA <INPUT TYPE=RADIO NAME=cardtype VALUE=mc>MasterCard <INPUT TYPE=RADIO NAME=cardtype VALUE=amex>American Express Number: <INPUT TYPE=TEXT NAME=cnumber abcmodes=num> <INPUT KEY=send TYPE=submit name=buy value="Review"> </FORM> </BODY> </HTML></pre> |  |

FIG. 18a

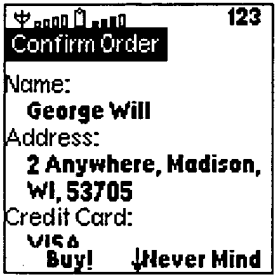
| HTMLp | Result |
|--|---|
| <pre> <HTML> <HEAD> <TITLE>Confirm Order</TITLE> <KEY KEY=2 LABEL="Never Mind" ACTION=done> </HEAD> <BODY> <template> <DL> <DT>Name:</DT><DD>%(extra:name)</DD> <DT>Address:</DT><DD>%(extra:street), %(extra:city), %(extra:state), %(extra:zip)</DD> <DT>Credit Card:</DT><DD><if test=extra:cardtype=visa>VISA</if><if test=extra:cardtype=mc>MasterCard</if><if test=extra:cardtype=amex>American Express</if> %(extra:cnumber)</DD> </DL> </template> <FORM METHOD=POST ACTION="http://cgi-bin/purchase"> <INPUT KEY=1 TYPE=submit name=buy value="Buy!"> </FORM> </BODY> </HTML> </pre> |  |
| <p>Final HTTP transaction sent to server:</p> <pre> POST //cgi-bin/purchase name/George Will street/2 Anywhere city/Madison state/WI zip/53705 cardtype/visa cnumber/7732222156661000 buy/Buy! </pre> | |

FIG. 18b

| HTMLp | Result |
|--|---|
| <pre><HEAD> <TITLE>Green-Tongued Iguana</TITLE> </HEAD> <BODY> The green-tongued iguana is a native of Adelaide, Australia. It likes to live under spare tires, unlike the Blue-Tongued Iguana, its cousin to the north. </BODY></pre> | <div><div>123</div><div>Green-Tongued Iguana</div><div>The green-tongued iguana is a native of Adelaide, Australia. It likes to live under spare tires, unlike the Blue-Tongued Iguana, its cousin to the north.</div><div>Links</div></div> <div><div>123</div><div>Green-Tongued Iguana</div><div>The green-tongued iguana is a native of Adelaide, Australia. It</div><div><div>Picture</div><div>map</div><div>Blue-Tongued Igu...</div><div>Select</div></div></div> |

FIG. 19


| HTMLp | Result |
|---|---|
| <pre> <HEAD> <TITLE>OAK to SEA 3/24</TITLE> <LINKMENU> </HEAD> <BODY> <TABLE> <TR> <TH><U>Flight</U></TH> <TH ALIGN=CENTER><U>Dep</U></TH> <TH ALIGN=CENTER><U>Arr</U></TH> </TR> <TR> <TD>UA 909</TD> <TD ALIGN=RIGHT>09:33</TD> <TD ALIGN=RIGHT>11:22</TD> </TR> <TR> <TD>AS 63</TD> <TD ALIGN=RIGHT>10:02</TD> <TD ALIGN=RIGHT>11:57</TD> </TR> <TR> <TD>AS 102</TD> <TD ALIGN=RIGHT>12:36</TD> <TD ALIGN=RIGHT>14:08</TD> </TR> <TR> <TD>UA 887</TD> <TD ALIGN=RIGHT>15:10</TD> <TD ALIGN=RIGHT>17:21</TD> </TR> </TABLE> </BODY> </pre> |  |

FIG. 20

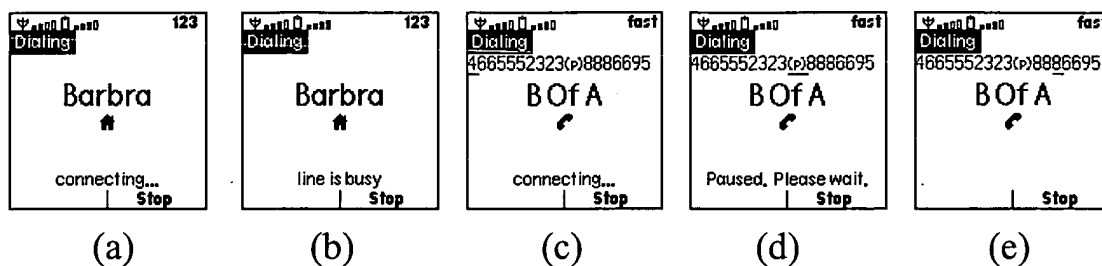


FIG. 21

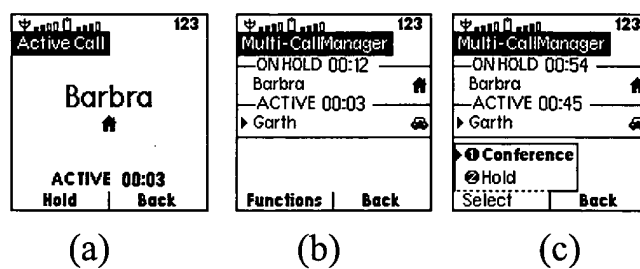


FIG. 22

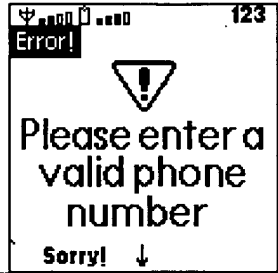
| HTMLp | Result |
|---|---|
| <pre> <HTML> <HEAD> <TITLE>Error!</TITLE> <KEY KEY=1 LABEL="Sorry!" ACTION=pop> </HEAD> <BODY> <CENTER> <INC SRC=extra:message> </CENTER> </BODY> </HTML> </pre> |  |

FIG. 23

968040-46E/5060

| KEYCAPS | | MISCELLANEOUS | |
|--------------------|---|------------------|---|
| builtin:key1 | ① | builtin:smiley | ☺ |
| builtin:key2 | ② | builtin:signal | ⚡ |
| builtin:key3 | ③ | | |
| builtin:key4 | ④ | | |
| builtin:key5 | ⑤ | | |
| builtin:key6 | ⑥ | | |
| builtin:key7 | ⑦ | | |
| builtin:key8 | ⑧ | | |
| builtin:key9 | ⑨ | | |
| builtin:key0 | ⑩ | | |
| PHONE NUMBER TYPES | | | |
| builtin:type0 | ☎ | builtin:bigtype0 | ☎ |
| builtin:type1 | 🏠 | builtin:bigtype1 | 🏠 |
| builtin:type2 | 🏠 | builtin:bigtype2 | 🏠 |
| builtin:type3 | 📞 | builtin:bigtype3 | 📞 |
| builtin:type4 | 🚗 | builtin:bigtype4 | 🚗 |
| builtin:type5 | 📺 | builtin:bigtype5 | 📺 |
| builtin:type6 | 📺 | builtin:bigtype6 | 📺 |
| builtin:type7 | 📺 | builtin:bigtype7 | 📺 |

FIG. 24



| HTMLp | Result |
|---|---|
| <pre> <HEAD> <DIAL NAME="Voice Mail" NOSCREENCHANGE>8144299x#4416722</DIAL> <TITLE>Voice Box</TITLE> <KEY KEY=#5 ACTION=vmListen.htp> <KEY KEY=#4 ACTION=vmGreeting.htp> <KEY KEY=#6 ACTION=vmNew.htp> <KEY KEY=#9 ACTION=vmSignoff.htp> <KEY KEY=default ACTION=none> <TOP> </HEAD> <BODY> Greeting Options Listen to Messages Record a Message Sign Off </BODY> </pre> |  |
| <pre> <HEAD> <DIAL>5</DIAL> <TITLE>Listen</TITLE> <KEY KEY=#2 ACTION=phone:dial?num=2> <KEY KEY=#3 ACTION=phone:dial?num=3> <KEY KEY=#5 ACTION=phone:dial?num=5> <KEY KEY=#7 ACTION=phone:dial?num=7> <KEY KEY=#9 ACTION=pop> </HEAD> <BODY> Back Up a Bit Start Again Erase Next Message Save Message Stop Listening </BODY> </pre> |  |

FIG. 25